Rule 1.126

Claims:

9 1. System for lifting and moving an object from one point to another, said system comprising :

a. a partially hollow vertical post;

b. a counterweight disposed within said post;

c. first means allowing the counterweight to move vertically;

d. a lateral arm pivotally held to said vertical post and comprising a first proximal end located near said post and a second distal end located away from said post;

e. a cable having one end attached to said counterweight and the other end attached to said distal end of the lateral arm;

f. a carriage supporting said cable;

g. second means allowing the longitudinal displacement of the carriage along said lateral arm; and

h. means to support said load attached to said cable.

10 2. A system as described in claim 1 comprising one or more longitudinal supports moveably connected to said post and fixed to said lateral arm.

11 3. A system as claimed in claim 1 wherein said first proximal and of said lateral arm is held to the post by means allowing it to pivot around the vertical axis of said post.

12 4. System as claimed in claim 1 wherein said lateral arm can pivot 300^0 around said post in a continuous movement.

13 5. System as claimed in claim 1 wherein said counterweight also constitutes a piston and said first displacement means comprise a pressurized or compressed fluid.

14 6. System as claimed in claim 1 wherein said post is used as a compression chamber.

15 17. System as claimed in claim 14 6 wherein the pressure in said compression chamber is about four pounds per square inch (4 PSI).

16 18. System as claimed in claim 15 8 wherein said first displacement means comprise pressurized air.

17 19. System as claimed in claim 16 8 wherein the air pressure in said post is about four pounds per square inch (4 PSI).

13 10. System as claimed in claim 9 1 wherein the counterweight is also a piston comprising sealing means between the piston and the post and the first displacement means comprise pressured air in the portion of the post located under the piston.

19 11. System as claimed in claim 18 10 wherein said sealing means comprise an opening having a predetermined area allowing air to escape there through .

20 12. System as claimed in claim 9 1 wherein said first displacement means comprise a liquid.

21 13. System as claimed in claim 20 12 wherein said first displacement means comprise water.

22 14. System as claimed in claim 20 12 wherein said first displacement means comprise mercury.

23 15. System as claimed in claim 20 12 wherein said first displacement means comprise oil.

24 16. System as claimed in claim 9 1 wherein said counterweight comprises a cavity within which a granular substance can be placed thus allowing a variation in the mass of said counterweight.

25 17. System as claimed in claim 16 comprising means to control the quantity of granular substance placed in the counterweight.

26 18. System as claimed in claim 17 wherein said control means comprise a trap or valve on the underside of said counterweight.

27 19. System as claimed in claim 17 wherein said control means comprise a trap or valve on the underside of said counterweight and an opening on the topside of the counterweight.

28 20. System as described in claim 17 wherein said control means comprise a trap or valve on the underside of the counterweight and an opening on the topside of the counterweight and means to lift the granular substance above said post in a reservoir also equipped with a trap or valve on its underside thus allowing the counterweight to be filled.

29 21. System as described in claim 20 wherein said lifting means comprise a vertical conveyor.

30 22. System as described in claim 17 wherein said first displacement means comprise sand.

31 23. System as described in claim 17 wherein said first displacement means comprise metal granules.

32 24. System as described in claim 17 wherein said first displacement means comprise metal beads.

33 25. System as described in claim 17 wherein said first displacement means comprise polymer beads.

26. System as claimed in claim 1 wherein said lateral arm comprises a rail on which said carriage is placed.

27. System as claimed in claim 1 in which said carriage is provided with means allowing the carriage to move along said rail and allowing said supporting means to remain at a constant distance from said carriage no matter its position on said lateral arm.

28. System as claimed in claim 27 in which said second displaceble means comprise a plurality of pulleys.

29. Carriage for use with a system to displace a load, comprising a cable and a rail itself comprising a first surface and a second surface said carriage comprising:

a. à first wheel attached to a first axis which is perpendicular to the direction of the displacement, said wheel being disposed at the longitudinal center of the carriage and being adapted to roll on said first surface;

b. a second wheel attached to a second axis which is an extension of said first axis, said wheel being adapted to roll on said second surface.

30. Carriage as claimed in claim 29 in which said first axis and said second axis are unitary.

31. Carriage as claimed in claim 29 comprising a first pulley and a second pulley which are parallel to said first wheel and said second wheel.

32. Lateral arm for use with a system to displace a load comprising a cable and an attachment block, a carriage and a post around which said lateral arm can pivot, said arm comprising:

a. a rail comprising two parallel surfaces separated by a space on which surfaces said carriage can be displaced along the longitudinal axis of said arm;

b. a vertical support extending downwardly from said rail and being generally parallel to said post;

c. first diagonal support means extending between said vertical support and a first side of said rail;

d. second support means extending between said vertical support and a second side of said rail;

e. means attached to said vertical support allowing it to pivot around said post.

41 ~~33~~. Lateral arm as claimed in claim 40 ~~32~~ in which said first diagonal support means and second diagonal support means are parallel.

42 ~~34~~. Lateral arm as claimed in claim 40 ~~32~~ wherein said pivot means comprise a pair of bearings displaceble along the exterior surface of the post.